

Author(s)/participant(s): Siddoway/Bandy

Contact for lead author: Great Falls Area Office, Great Falls, Montana **Reference site used?** No

Date: May 2005 **MLRA:** 43BN **Ecological Site:** Shallow 20'+ p.z. This *must* be verified based on soils and climate (see Ecological Site Description). Current plant community *cannot* be used to identify the ecological site.

Indicators. For each indicator, describe the potential for the site. Where possible, (1) use numbers, (2) include expected range of values for above- and below-average years for <u>each</u> community within the reference state (when appropriate), and (3) cite data. Continue descriptions on separate sheet if needed.	WF
1. Number and extent of rills: Slopes most common on this site are between 0 – 60% and with 90% of the soil surface covered there are may be rills evident after moderate to extreme convection storms. Rills could be 6 – 10 feet in length.	1.0
2. Presence of water flow patterns: May be evident on slopes greater than 15%.	1.0
3. Number and height of erosional pedestals or terracettes: Evidence of wind erosion will be rare on this site, but water erosion on the steeper slopes may have plants that could have pedestals and terracettes which could be 0.5 inch in height at the top of the slope and 1.0 inch at the bottom of the slope..	1.0
4. Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are <i>not</i> bare ground): Bare ground should be no more than 10% on this site.	1.0
5. Number of gullies and erosion associated with gullies: Gully erosion will not be evident on this site.	1.0
6. Extent of wind scoured, blowouts and/or depositional areas: Appearance or evidence of these erosional features on the landscape would not be present on this site.	1.0
7. Amount of litter movement (describe size and distance expected to travel): Litter movement will be minimal on the gradual slopes, however on the steeper slopes there will be evidence of litter movement (i.e. litter dams) which may travel up to 10 feet.	1.0
8. Soil surface (top few mm) resistance to erosion (stability values are averages – most sites will show a range of values for both plant canopy and interspaces, if different): Resistance to erosion will be high with soil stability values of 5 or 6; areas of bare soil on this site may have values between 3 and 5 if not under plant canopy.	1.0
9. Soil surface structure and SOM content (include type and strength of structure, and A-horizon color and thickness for both plant canopy and interspaces, if different): Soil surface structure is granular; A horizon depth is 6 – 12”.	1.0
10. Effect of plant community composition (relative proportion of different functional groups) & spatial distribution on infiltration & runoff: Dominance of taller, deep rooted bunchgrasses will maximize infiltration and minimize runoff throughout the site.	1.0
11. Presence and thickness of compaction layer (usually none; describe soil profile features which may be mistaken for compaction on this site): Will not be present generally, but there may be areas that have “healed” from former bison trails and wallows as well as more current livestock trails which could have a compaction layer below the soil surface.	1.0
12. Functional/Structural Groups (list in order of descending dominance by above-ground weight using symbols: >>, >, = to indicate much greater than, greater than, and equal to): Cool season, taller bunchgrasses (Rough fescue, Richardson’s needlegrass) >> cool season shortgrasses (Idaho fescue, Parry danthonia) > shrubs > perennial forbs > sedges.	1.0
13. Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence): Will be low for all functional groups in a given year. Prolonged droughts which last more than 3 years may show increases in mortality and decadence for all plant groups.	1.0
14. Average percent litter cover (50 – 55%) and depth (0.5 – 1.0 inches).	1.0
15. Expected annual production (this is TOTAL above-ground production, not just forage production): 1400 - 2000 #/acre. This would be the expected production for the reference state during adequate moisture years.	1.0
16. Potential invasive (including noxious) species (native and non-native). List species which characterize degraded states and which, after a threshold is crossed, “will continue to increase regardless of the management of the site” and may eventually dominate the site: Timothy, Smooth brome, Kentucky/Canada bluegrass, shrubby cinquefoil, dense clubmoss, Japanese brome, a variety of annual or biennial weedy forbs, larkspurs, arrowleaf balsamroot, fringed and cudweed sagewort, broom snakeweed, pussytoes, creeping juniper, field chickweed, Douglas fir, Ponderosa pine, Lodgepole pine, Limber pine, snowberry, serviceberry, cheatgrass, houndstongue, thistle spp., knapweed spp., leafy spurge.	1.0
17. Perennial plant reproductive capability: During adequate moisture years bunchgrasses will generally produce seeds, however the cool season rhizomatous grasses may not necessarily produce seed even with adequate moisture.	1.0